2020 WL 4804794 (S.C.P.S.C.)

IN RE: PETITION OF BRIDGESTONE AMERICAS TIRE ORGANIZATION, LLC FOR AN ORDER COMPELLING DOMINION ENERGY SOUTH CAROLINA, INCORPORATED TO ALLOW THE OPERATION OF A 1980 KW AC SOLAR ARRAY AS AUTHORIZED BY STATE LAW

Docket No. 2020-63-E Order No. 2020-535

South Carolina Public Service Commission

August 14, 2020

ORDER GRANTING BRIDGESTONE WAIVER TO QUEUE REQUIREMENT OF SOUTH CAROLINA GENERATOR INTERCONNECTION PROCEDURES

BY THE COMMISSION.

- *1 This matter comes before the Public Service Commission of South Carolina ("Commission") on the Petition of Bridgestone Americas Tire Operations, LLC ("Bridgestone" or "Petitioner"), pursuant to S.C. Code Ann. §§ 58-27-1940, 58-27-980, and 58-27-460(C) and S.C. Code Ann. Regs. 103-842 and 103-825 (2015 and Supp. 2019), for an order requiring Dominion Energy South Carolina ("DESC" or the "Company") to authorize operation of a 1980 kilowatt ("kW") AC solar array ("Solar Array") constructed at its Graniteville facility in Aiken County, South Carolina. Specifically, Bridgestone requests that this Commission either (i) declare that the Solar Array constructed at Bridgestone's Graniteville plant in Aiken, South Carolina, is not subject to (exempt from) the Commission-approved interconnection standards in the South Carolina Generator Interconnection Procedures ¹ ("SCGIP"), or (ii) alternatively, issue an order waiving the requirements of the SCGIP on the operations of the Bridgestone Solar Array and require DESC to allow operation of the Solar Array, or (iii) issue a waiver to Bridgestone from the queue requirement of SCGIP so that the Solar Array shall move forward and immediately be processed with any relevant or necessary testing and study completed straightaway by DESC and its representatives or agents so that the Solar Array will be operational as soon as possible. ²
- *2 For the reasons set forth below, the Commission grants the Petition, as modified by its closing argument based upon the testimony of DESC witness Hammond, for waiver from the state interconnection queue requirement of SCGIP so that DESC shall now immediately proceed to complete its study, review, and testing of the Bridgestone Solar Array so that the Solar Array shall be operational as soon as practical.

I. INTRODUCTION AND PROCEDURAL HISTORY

In October 2018, Bridgestone completed construction of the Solar Array at its Graniteville manufacturing plant of passenger and light tires. Once operational, the Solar Array will allow Bridgestone to reduce its electricity consumption and peak demand, lower its electricity costs by approximately \$20,000 per month, and further its corporate goals of reducing its global CO₂ emissions thirty-five percent (35%) by 2020 and 50 percent by 2050 using renewable energy sources. *Cannon Dir. p. 7, In. 10-18*. Bridgestone designed the Solar Array to supplement about 1.5 percent of fossil fuel-based energy needed for the Graniteville plant and eliminate 1,400 metric tons of CO₂ emissions annually. *Cannon Dir. p. 7, In. 12-13*. The application for this Solar Array, which is a 'renewable energy facility' as defined by South Carolina Code § 58-39-120(E) (2015), was submitted by Bridgestone to DESC in February 2018 to begin the process for the Solar Array to be built on its property and connected to its Graniteville plant powerhouse. *See, DESC Response dated February 21, 2020, p. 3.* In the approximate two years since the Solar Array's completion, DESC has not allowed Bridgestone to operate the facility, ultimately giving rise to the dispute in this proceeding. DESC claims that the Solar Array will operate in parallel with its system and is subject to the South Carolina Generator Interconnection Procedures ("SCGIP") and the interconnection queue requirement, in which the Solar Array is currently 375th in line.

On February 14, 2020, Bridgestone filed a petition requesting that the Commission issue an order finding that the SCGIP do not apply to the Solar Array or, in the alternative, waive the requirements of the SCGIP as to the Solar Array, and to compel DESC to permit the operation of the Solar Array. According to Bridgestone's Petition, the Solar Array is directly connected to the Graniteville plant's powerhouse, not DESC equipment, and will not interfere with DESC's equipment or its transmission system. *Bridgestone Pet. at 3*, ¶5. Bridgestone alleges and argues that the SCGIP does not apply because "[t]he Solar Array is not interconnected to DESC's transmission system and does not operate in parallel with DESC's system." *Bridgestone Pet. at 4*, ¶7. Bridgestone will not net meter or sell its energy to DESC, as it intends to consume all of the electricity generated by the Solar Array, and the company installed reverse power flow protection relays to prevent electricity from being inadvertently transmitted from the Solar Array to DESC infrastructure. *Id*; *see also Cannon Dir. p. 7, ln. 1-2*. Further, BATO claims that it constructed the Solar Array in accordance "DESC's technical specifications as required by the parties' contract for electric service" ("Service Contract") between Bridgestone and DESC approved by the Commission. *Bridgestone Pet. at 3-4*, ¶¶ *4-7; see also, Cannon Dir. p. 7, ln. 2-4*. On these facts, Bridgestone argues that the Solar Array is not subject to the SCGIP, promulgated pursuant to S.C. Code Ann. § 58-27-460. *Bridgestone Pet. at 4-5*, ¶ 7.

*3 On February 21, 2020, DESC filed a Response to the Petition. In its Response, DESC that:

"[a]lthough DESC does not support Bridgestone's request for a waiver, DESC has been clear with Bridgestone that **DESC would expedite its review, perform the necessary studies, and proffer** an Interconnection Agreement ("IA") **that would allow Bridgestone to operate** upon execution and compliance with the terms of the IA should the Commission issue such a waiver."

DESC Feb. 21, 2020 Resp., pp. 1-2, ¶ 3 (emphasis added). DESC also raises the issue as to whether or not the Bridgestone Solar Array is subject to state jurisdiction by the Commission and whether the SCGIP applies to the Solar Array. DESC Feb. 21, 2020 Resp., p. 1, ¶ 2. DESC is also disputes any allegation that it agreed that the Solar Array was not subject to the SCGIP as purported by Bridgestone. DESC Feb. 21, 2020 Resp., p. 2, ¶ 3. "DESC has not yet completed a study of Bridgestone's interconnection request due to the processing of requests from other projects ahead of Bridgestone in the queue. DESC has not yet inspected the Solar Array as constructed" DESC Feb. 21, 2020 Resp., p. 3, ¶ 1. DESC opposes a blanket or complete waiver of SCGIP to Bridgestone as its Solar Array "must be subject to study and review by the utility...." DESC Feb. 21, 2020 Resp., p. 5, ¶ 1. While DESC generally opposes waivers of SCGIP, DESC suggested that "the Commission should only waive the queueing requirements of the SCGIP and allow DESC to study Bridgestone 'out of order." DESC Feb. 21, 2020 Resp., p. 5, ¶¶ 1 - 2; see, also Hammond Cross., July 29, 2020. DESC asserts that the Bridgestone Solar Array will be interconnected and operate parallel (a position disputed by Bridgestone and the S.C. Coastal Conservation League) by electrical connection to the DESC system; thus, the connection result in the potential for the Solar Array to impact the DESC system. DESC Feb. 21, 2020 Resp., p. 6, ¶ 1.

Bridgestone, by letter dated March 2, 2020, inquired as to whether DESC's response constituted the Company's Answer and should the correspondence not constitute its answer, that the Clerk issue a notice pursuant to S.C. Code Ann. Regs. 103-826 and 103-830. *Bridgestone Mar. 2, 2020 Ltr.* On March 4, 2020, the Commission issued Directive Order No. 2020-179 directing that DESC advise within three (3) days as to whether its February 21, 2020 letter response shall constitute its Answer to Bridgestone's Petition. *Order No. 2020-179*.

On March 6, 2020, DESC filed a letter informing the Commission that its February 21, 2020 filing constituted its answer to the Petition. DESC also supplemented its prior February filing to clarify that DESC denied any allegation that:

*4 'DESC's actions violate S.C. Code Ann. Section 58-27-460, Order No. 2016-191, and the parties' contract for electric service.' DESC avers it has not violated any statute, rule, regulation or order administered or issued by the Commission. Indeed, Bridgestone filed its Petition only because DESC is consistently upholding and applying the Commission's rules, regulations, and orders governing the interconnection and parallel operation of an electric generating facility with the electric grid and

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ensuring that Bridgestone complies with the same rules that are applicable to every other entity that seeks to interconnect a generating facility to the electric grid despite Bridgestone's argument that its electric generating facility is not subject to state or federal law and that it may interconnect its facilities to the electric grid at its discretion. Any other material allegations not specifically admitted are hereby denied.

DESC Mar. 6, 2020 Ltr, pp. 1-2, \P 2. 3

By Order No. 2020-196, the Commission instructed the Clerk's Office to set the matter for hearing and the parties provided a consent procedural prefiling and hearing schedule.

The South Carolina Coastal Conservation League ("CCL") filed a Petition to Intervene with the Commission on April 6, 2020, which was granted by Order No. 2020-322. No other petitions to intervene were filed in this matter. Pursuant to S.C. Code Ann. § 58-4-10(B) (Supp. 2019), the South Carolina Office of Regulatory Staff ("ORS") is a party of record in this proceeding.

Bridgestone filed the direct testimony of witnesses Courtney Cannon, Derrick Freeman, and Edward G. McGavran, III, with corresponding exhibits on June 9, 2020. On July 7, 2020, Bridgestone timely filed the Rebuttal Testimony and Exhibits of witness Edward G. McGavran. Neither ORS nor CCL filed any Direct or Rebuttal Testimony.

DESC filed the direct testimony and exhibits of witnesses Mark C. Furtick, Joseph Hodges, John Raftery, and Pandelis Xanthakos on June 30, 2020. On June 14, 2020, the Company timely filed the surrebuttal testimony of witnesses Mark C. Furtick, P.E., Matthew J. Hammond, P.E., and Pandelis Xanthakos.

On July 17, 2020, Bridgestone filed a Motion to Strike Portions of Dominion Energy South Carolina, Inc.'s Prefiled Direct ⁴ Testimony and Surrebuttal ⁵ Testimony. The Company filed its Response in Opposition to Motion to Strike on July 27, 2020.

*5 Due to public health concerns and the COVID-19 pandemic, the Commission conducted the scheduled hearing in this matter virtually on July 28, 2020 beginning at 10:00 a.m. with the Honorable Comer H. Randall, Chairman, presiding in the Commission's hearing room located at 101 Executive Center Drive in Columbia, South Carolina, with the Honorable Florence P. Belser, the Honorable Thomas J. "Tom" Ervin, the Honorable G. O'Neal Hamilton, and the Honorable John E. "Butch" Howard. The Honorable Swain E. Whitfield was unavailable on sick leave and the Honorable Justin T. Williams is on military leave.

Bridgestone was represented by Scott Elliott, Esquire, David Dumas, Esquire, and Robert Boon, Esquire. CCL was represented by Katherine Nicole Lee, Esquire and J. Blanding Holman, IV, Esquire. ORS was represented by Alexander Knowles, Esquire. DESC was represented by Matthew Gissendanner, Esquire, K. Chad Burgess, Esquire, J. Ashley Cooper, Esquire, and Marion William Middleton, Esquire.

II. JURISDICTION

The Commission is a government agency of limited power and jurisdiction that is specifically conferred either expressly or impliedly by the General Assembly. *Kiawah Prop. Owners Grp. v. Pub. Serv. Comm'n of S.C.*, 359 S.C. 105, 109, 597 S.E.2d 145, 147 (2004) citing *City of Camden v. South Carolina Pub. Serv. Comm'n*, 283 S.C. 380, 382, 323 S.E.2d 519, 521 (1984). South Carolina Code Section 58-5-210 grants the Commission with the power and jurisdiction to regulate the "service of every public utility in this State ... [and] to ascertain and fix such just and reasonable standards, classifications, regulations, practices and measurements of service to be furnished, imposed, observed and followed by every public utility in this State" as the State has the right to regulate the services of every public utility operating within South Carolina. S.C. Code Ann. §58-5-210 (2015). In so exercising its statutory authority pursuant to S.C. Code Ann. § 58-5-210 (2015) to supervise and regulate the service of every public utility in this State, "the Commission must be allowed the discretion of imposing reasonable requirements on its

jurisdictional utilities to ensure that adequate and proper service will be rendered to the customers of the utility companies." *Patton v. S.C. Pub. Serv. Comm'n*, 280 S.C. 288, 293, 312 S.E.2d 257, 260 (1984). The courts have long held that the Commission is the "expert" designated by the General Assembly to make policy determinations regarding utility matters. *Kiawah Prop. Owners Grp. v. Pub. Serv. Comm'n of S.C.*, 359 S.C. 105, 109, 597 S.E.2d 145, 147 (2004).

*6 Additionally, the Commission also has jurisdiction over this matter pursuant to S.C. Code Ann. § 58-27-1940 (2015). Section 58-27-1940 specifically provides that the Commission is authorized to adjudicate, upon petition of an interested party, "any act or thing done or omitted to be done by any electrical utility in violation, or claimed violation, of any law which the [C]omission has jurisdiction to administer or of any order or rule of the [C]ommission." S.C. Code Ann. § 58-27-1940 (2015). 3109 Hwy. 25 S., L.L.C. v. Duke Energy Carolinas, LLC, No. 2018-000475, 2019 WL 3946090 (S.C. Aug. 21, 2019).

The Commission furthermore has the authority to supervise and regulate the service and operations of DESC as a public utility in South Carolina. S.C. Code Ann. § 58-3-140 (2015). This includes jurisdiction over the Service Contract entered between DESC and Bridgestone. S.C. Code Ann. § 58-27-820. In 2014, the General Assembly enacted Act 236 and created the "South Carolina Distributed Energy Resource Program" with the jurisdiction and authority of the Commission. S.C. Code Ann. § 58-27-40, 58-27-80, 58-27-140, 58-27-150, & 58-27-240. Act 236 of 2014, as amended by the Energy Freedom Act (2019 Act No. 62), requires that the Commission "promulgate and periodically review standards for interconnection and parallel operation of generating facilities to an electrical utility's distribution and transmission system, where such interconnection is under the jurisdiction of the [C]ommission." S.C. Code Ann. § 58-27-460(A)(1) (Supp. 2019).

While Bridgestone argues that the SCGIP standards only apply to solar generators designed to net meter or sell their full output to the utility, Bridgestone asserts that its Solar Array is governed by the parties' Contract for Electric Service which were approved in Commission Orders No. 2009-102 and 2012-392. See, Hearing Exhibit Nos. 2 & 3. As the arbiter of the parties' duties and responsibilities under the contract for electrical service, Bridgestone is requesting that the Commission use that authority as well in this matter to allow its Solar Array, which will not net meter or sell its full output to DESC, to become operational. S.C. Regs. 103-303; S.C. Code Ann. § 58-27-40 & 58-27-820 (2015); See also, Bridgestone Prehearing Brief, pp. 5-7. DESC argues that the SCGIP applies; however, if not, then Bridgestone's Solar Array is subject to jurisdiction of the Federal Energy Regulatory Commission ("FERC") because it connects to FERC jurisdictional transmission facilities. DESC Prehearing Brief, pp. 12-13.

*7 For the reasons stated herein, the Commission finds that it has jurisdiction in this matter not only through its broad statutory authority in S.C. Code Ann. §58-5-210 (2015), S.C. Code Ann. §58-3-140 (2015), S.C. Code Ann. §58-27-460(A)(1) (Supp. 2019), S.C. Code Ann. §58-27-1940 (2015) but also from Acts 234 of 2014 and Act 62 of 2019 and as the entity designated by the General Assembly to regulate and supervise these matters.

II. BRIDGESTONE'S MOTION TO STRIKE

Bridgestone timely filed a Motion to Strike certain portions of DESC's pre-filed testimony of DESC Witnesses Mark C. Furtick, John H. Raftery, and Pandelis N. Xanthakos, and Matthew J. Hammond. Bridgestone argues in its Motion to Strike that these portions are inadmissible under the rules of this Commission, including S.C. Code Ann. Regs. 103-829, 103-846, 103-846(A) and 103-849, S.C. Code Ann. § 58-3-225, and applicable provisions of the South Carolina Rules of Civil Procedure ("SCRCP") and the South Carolina Rules of Evidence ("SCRE"). See 26 S.C. Code Ann. Regs. 103-846(A) (Supp.2010) ("The rules of evidence as applied in civil cases in the Court of Common Pleas shall be followed."); Rule 402, SCRE ("All relevant evidence is admissible, except as otherwise provided by the Constitution of the United States, the Constitution of the State of South Carolina, statutes, these rules, or other rules promulgated by the Supreme Court of South Carolina."). Utilities Servs. of S.C., Inc. v. S.C. Office of Regulatory Staff, 392 S.C. 96, 111, 708 S.E.2d 755, 763 (2011).

Bridgestone asks the Commission seeks to strike certain referenced portions of DESC's pre-filed Rebuttal and Surrebuttal witness testimonies that reference (1) inadmissible settlement discussion between the parties in violation of Rule 408, SCRE;

- (2) inadmissible hearsay or lacks personal knowledge in violation of Rules 602 and 802, SCRE; and (3) inadmissible legal conclusions by lay witnesses in violation of Rules 602, 702, and 704 SCRE. Additionally, Bridgestone further moved to strike the letter dated April 29, 2020 on behalf of the South Carolina Solar Business Alliance (SCSBA) commenting on this Docket to which SCSBA did not intervene or participate as a party, for the inclusion of this letter in the prefiled testimonies of DESC witnesses Raftery and Xanthakos constitutes inadmissible hearsay evidence which should be stricken.
- *8 DESC opposed the Motion to Strike and argues that the pre-filed testimony of its witnesses is not hearsay, inadmissible or in violation of the Rules of Evidence as their witnesses provide testimony based upon their personal knowledge and experiences on behalf of DESC. See, DESC Jul. 27, 2020 Resp.

Prior to the start of the hearing on July 28 th, the Commission took the Bridgestone's Motion to Strike under advisement to be ruled upon within this Decision and Order. Based on this Commission's review of the Motion to Strike submitted by Bridgestone and the arguments of the parties, the Commission grants in part, and denies in part, the Motion of Bridgestone to Strike Certain Portions of DESC's Prefiled Direct and Surrebuttal Testimony and finds as follows:

- 1. Finding that such this testimony is in violation of Rule 408, SCRE, the Commission strikes from the Record the portions of the direct testimony of DESC witness Raftery and of DESC witness Freeman identified in the Bridgestone Motion to Strike that contain evidence of conduct or statements made in compromise negotiations with Bridgestone are inadmissible pursuant to Rule 408, SCRE. 8 The Commission finds that this testimony is in violation of 408, SCRE.
- 2. Finding that such this testimony is in violation of Rules 602 and 802, SCRE, the Commission strikes the portions of the direct testimony of DESC witness Raftery identified in Bridgestone's Motion to Strike that contain hearsay statements made by South Carolina Solar Business Alliance. This includes Hearing Exhibit No. 15, which is the same letter on behalf of the South Carolina Solar Business Alliance that Bridgestone objected and moved to have stricken in its Motion, and which the Commission finds and clarifies that such letter known as Hearing Exhibit No. 15 is also stricken from the Record, along with other witness exhibits referenced in these stricken portions of testimony.
- 3. Finding that such this testimony does not violate of Rule 704, SCRE, the Commission finds that the portions of the direct testimonies of Witnesses Raftery, Furtick, and Xanthakos identified in Bridgestone's Motion to Strike that contain legal conclusions as to the application and interpretations of regulations and the SCGIP, including testimony offered by lay witnesses as to the ultimate issue before this Commission, are deemed admissible and included in the Record. ¹⁰
- *9 4. Finding that such this testimony does not violate Rule 704, SCRE, the Commission finds that the portions of the Surrebuttal testimonies of Witnesses Furtick, Xanthakos, and Hammond identified in the Motion to Strike, that contain legal conclusions offered by lay witnesses as to the ultimate issue before this Commission, are deemed admissible and included in the Record. 11

The evidence sought to be stricken by Bridgestone in its Motion would have had no impact on the outcome of this matter as decided by the Commission. Unlike a jury, the Commission is considered a panel of experts. *Hamm v. South Carolina Public Service Com'n*, 309 S.C. 282, 287, 422 S.E.2d 110, 113 (S.C. 1992) (Generally, "[t]estimony in the form of an opinion or inference otherwise admissible is not objectionable because it embraces an ultimate issue to be decided by the trier of fact."). The Commission, like a court, can hear testimony and give that testimony whatever weight it deems appropriate, as well as determine if it is reasonable and prudent to hear such testimony in deciding as to whether it may be inadmissible.

III. SUMMARY AND REVIEW OF EVIDENCE

Bridgestone operates a passenger and light truck tire manufacturing plant in Graniteville, South Carolina where it employs approximately 1,730 employees and contractors at a 2.78 million square foot (nearly 64 acres under roof) facility located on

a 585-acre site. Bridgestone is currently constructing an expansion at its Graniteville site that will increase the size of the Graniteville manufacturing plant by 366,000 square feet. In addition to the Graniteville passenger and light truck tire plant, Bridgestone also operates an off-road tire manufacturing plant in Aiken County. *Cannon Direct p. 2, In. 19 - p. 3, In. 8.*

Bridgestone's operations at its Graniteville plant operate twenty-four (24) hours a day, seven (7) days a week. The electric load is relatively constant when in operation. The manufacturing electric load is in the range of 30 - 34MW. Freeman Direct p. 4, In. 2-4. Even when the plant is idle with no maintenance activities, the plant still consumes considerable amounts of electricity. For instance, during the recent plant shut down due to the coronavirus pandemic, the absolute minimum electric load of the plant was still greater than the maximum output of the subject 1.98 MW Solar Array and the plant consumed 6.3 MW of electricity at its lowest point. Freeman Direct p. 5, In. 1-6 (graphs). The electric load for Bus 1 had a single dip that was still greater than 2.3 MW and Bus 2 did not get below 4.0 MW the entire month. Freeman Direct p. 4, In.11 - 16.

*10 DESC and Bridgestone operate pursuant to a Commission approved contract for electric service last amended in January of 2012. *Hearing Exhibit Nos. 2 and 3*. The contract provides that Bridgestone's service installations shall be made in accordance with the terms and conditions of the contract to include the provisions of the National Electrical Code, the Regulations of the National Board for Fire Underwriters, and the regulations of this Commission. Bridgestone is also obligated to operate its equipment to avoid adverse impact to DESC's system. *Hearing Exhibit Nos. 2 and 3*. In addition, DESC may access Bridgestone's premises to inspect, operate and maintain both DESC's and Bridgestone's facilities and equipment for purposes related to delivery of its service. *Hearing Exhibit Nos. 2 and 3*.

Bridgestone's 1.98 MW Solar Array was constructed in October of 2018 at its Graniteville plant at a cost of approximately \$2.7 million. The Solar Array was designed by a consultant hired by Bridgestone alongside its engineering team and in accordance with DESC's technical specifications as required by the parties' contract for electric service. *Cannon Direct page 7, In. 3-4.* The electricity generated by Bridgestone's Solar Array is for the exclusive benefit of the Bridgestone plant. *Id.* The Solar Array will provide Bridgestone with the opportunity to manage its electrical consumption and will contribute to reductions in the peak electrical demand.

The Solar Array as designed, will supplement about 1.5% of the electricity needed for the plant and will eliminate 1,400 metric tons of CO2 emissions annually. Bridgestone estimates that when operational, the Solar Array would offset its electricity costs by approximately \$20,000 per month. *Cannon Direct, p.7, ln. 9-18*. Despite the offset from the Solar Array, once the expansion of the Graniteville plant is completed the net effect will be an increase in electricity demand from the plant. *Cannon Direct p. 7, ll. 15-16*. Bridgestone maintains sustainability objectives for its global operations and its American tire manufacturing operations is also acting to reduce CO2 emissions. Bridgestone has set an aggressive absolute target for a 50% overall reduction of CO2 by 2050. The Bridgestone 2050 absolute targets for CO2 reduction require the utilization of renewable energy. *Cannon Direct p. 5, l. 13 - p. 6, l. 12*.

*11 Relying on guidance from DESC, Bridgestone submitted a fast track interconnection application to DESC on February 5, 2018 and was placed in DESC's queue at that time. *Hearing Ex. 12*. By March 19, 2018, at DESC's request, Bridgestone's solar consultant provided DESC with specifications for reverse flow protections, in particular a Multilin 350 relay with reverse power protection. In response, DESC informed Bridgestone's consultant that the Multilin 350 relay was an acceptable solution to DESC's reverse flow concerns and DESC informed Bridgestone's consultant that DESC would refund Bridgestone's interconnection fast track application fee and instead proceed directly to preparing an interconnection agreement obviating the need for Bridgestone to enter the queue. ¹³ *Hearing Ex. 13*.

Subsequently, DESC reversed its position and required Bridgestone to remain in the queue and further notified Bridgestone that it did not qualify for the fast track. Bridgestone's Solar Array is in 375 th place in the queue and DESC representatives have been unable to inform Bridgestone when its Solar Array will be allowed to operate. *Freeman prefiled direct p. 7, ln. 7-8*. In response to Commissioner questions, DESC witness Hammond was unable to provide the Commission with a specific time period or date when DESC would reach the Bridgestone application.

In September of 2018, because of budgeting concerns, Bridgestone approached DESC to request DESC's consent to permit Bridgestone to construct the Solar Array without activating the Solar Array. Daniel F. Kassis, a DESC Vice President, informed Bridgestone that DESC was working to find a way to resolve the interconnection issue and agreed to Bridgestone's building the Solar Array without interconnecting it. *Hearing Ex. 9*.

The Solar Array functions as a behind the meter resource which displaces load from the utility. *McGavran Direct p. 7, In. 11-13*. The Solar Array was not installed for the purpose of net metering or the sale of its full output to DESC. *Freeman Direct p. 8, In.1-5; McGavran Direct p. 10, In. 22 - p. 11, In. 5*. The electricity generated by the Solar Array would be consumed exclusively by Bridgestone's operations at its Graniteville plant. *Cannon Direct p. 6, In. 23 - p. 7, In. 4*. The fact that the electricity generated by the solar array will not be net metered or sold to DESC or third parties is material to the issue before this Commission and is not in dispute.

The Bridgestone Solar Array connects directly with the plant on an existing internal feeder, does not connect directly to DESC's utility system, and, in addition, is far removed electrically from the utility system. All load from the Solar Array is delivered to the Bridgestone powerhouse directly. *McGavran Direct p. 12, ln. 1-4.* To protect and safeguard DESC's equipment and facilities, DESC required Bridgestone to install reverse power flow protection relays preventing electricity from being inadvertently transmitted from the Solar Array to DESC. *Freeman Direct p. 6, ln. 8-11.* The Solar Array is a series connection with the plant and has multiple levels of protection between it and DESC's utility grid. *McGavran Direct p. 7, ll. 7 - 15.* Bridgestone witness McGavran testified that the Solar Array has no chance of ever having any impact on the utility grid due to the reverse power relays. *McGavran Direct p. 11, ln. 2-5.* Witness McGavran argues that the Generating Facility (Solar Array) does not operate in parallel with the DESC system given that "it is far removed electrically" from the DESC system and all "load from the [Generating Facility] is delivered to the facility directly." *McGavran Direct p. 12, ln.2-4.*

*12 On the other hand, DESC takes a different position, noting that the two systems (DESC's and Bridgestone's) are not "far removed" from each other and are actually inextricably linked given that the electricity supplied by each will be used to supply Bridgestone's electric load in concert with the other. *Xanthakos Direct.*. DESC argues that this coordinated service of Bridgestone's electric load means that the power supplied by the Generating Facility would need to "sync or match" the power supplied by DESC to ensure the safety and reliability of both systems, especially. *DESC's Prehearing Brief at 5*. DESC witness Furtick testified that stand-by generators, which--unlike the Generating Facility--only operate while the DESC system is not supplying power to serve the common electric load. *See Furtick Surrebuttal*. DESC indicated that these standby generators are not subject to the SCGIP because they are not interconnected and operated in parallel with the DESC system. *Id*. DESC argues that as a result, the safety and reliability concerns are mitigated given that such generators are not continuously supplying power to the same electric load in concert with DESC. *Id*.

DESC Witness Xanthakos further testified that if the reverse power relays failed and the Bridgestone facility were to lose power --such as during a hurricane--the Generating Facility could push power back onto the DESC system. DESC Witness Xanthakos also testified that DESC must as part its NERC obligations whereby DESC must study the reliability impact of interconnecting new generation. *Xanthakos Surrebuttal p. 5, In. 12-19.*

DESC witness Furtick testified that since the solar array will provide electricity to Bridgestone simultaneously with DESC's operations that the solar array will be operating parallel with DESC even if it does not export any electric generation to DESC. Furtick Direct p. 6, ln. 20 - p. 7, ln. 7; Xanthakos prefiled Direct p. 5, ln. 11 - 15.

Even though Bridgestone's witness testified that the Solar Array is not directly interconnected to the DESC system, DESC witness Xanthakos testified that because the Solar Array was connected to the Bridgestone plant and the Bridgestone plant was interconnected to DESC, therefore the solar array was interconnected to DESC. *Xanthalos Direct p. 5, ln. 20 - p. 6, ln. 1; Hearing Exhibit No. 8.*

Bridgestone witness Freeman testified that the Solar Array was constructed in compliance with all Federal, State, and local codes, the regulations of this Commission, and the General Terms and Conditions, Specifications for Service and Meter Installations set out in the contract for electric service between Bridgestone and DESC approved by this Commission. *Freeman Direct p. 6, In. 5-19.*

DESC witness Hammond testified that if the Commission were to grant a waiver to Bridgestone, it was preferred that the Commission did not exempt Bridgestone's Solar Array from the SCGIP but that it was be best to exempt from the queue requirement. *Hammond Cross-examination Testimony*.

IV. FINDINGS OF FACT AND CONCLUSIONS OF LAW

- *13 The Commission is both entitled and required to consider the evidence presented to it on the formal record, we hold the Commission is entitled to rely on sworn testimony presented during the proceeding. *Utilities Servs. of S.C., Inc. v. S.C. Office of Regulatory Staff*, 392 S.C. 96, 111, 708 S.E.2d 755, 763 (2011). Based upon the discussion as set forth herein, and the record of this proceeding, the Commission makes the following Findings of Fact and Conclusions of Law:
- 1. The Commission concludes and finds that the admission of evidence is within the discretion of the trial court.
- 2. The Commission concludes and finds that the portions of the direct testimony of Witness Raftery identified in Bridgestone's Motion to Strike which contain evidence of conduct or statements made in settlement negotiations between DESC and Bridgestone are inadmissible and stricken from the Record pursuant to Rule 408, SCRE. ¹⁴
- 3. The Commission concludes and finds that the portions of DESC witness Raftery's direct testimony identified in Bridgestone's Motion to Strike that contain hearsay statements made by South Carolina Solar Business Alliance (SCSBA) are inadmissible and stricken from the Record pursuant to Rules 602 and 802, SCRE. ¹⁵
- 4. Additionally, the Commission concludes and finds that it must clarify that Hearing Exhibit No. 15, which is a copy of the same SCSBA letter which Bridgestone objected and moved in its Motion to have stricken, is inadmissible and stricken from the Record.
- 5. The Commission further concludes and finds that all parties had a full opportunity to raise objections during the hearing concerning the afore-mentioned evidence and Motion to Strike taken under advisement by the Commission, as well as to make their respective arguments and to question the witnesses. The Commission notes DESC did file a Response in argument against Bridgestone' Motion to Strike on July 27, 2020. See, DESC Jul. 27, 2020 Resp.
- 6. The Commission concludes and finds that the evidence and testimony sought to be stricken by Bridgestone in its Motion to Strike would have had no impact on the outcome of this matter as decided by the Commission.
- 7. With regard to the portions of the direct testimonies from DESC Witnesses Raftery, Furtick, and Xanthakos, as well as those portions of the surrebuttal testimonies by these same DESC Witnesses Furtick and Xanthakos and DESC witness Hammond, as identified by Bridgestone in its Motion to contain legal conclusions as to the application and interpretations of regulations and the SCGIP, including testimony offered by lay witnesses as to the ultimate issue before this Commission, the Commission concludes and finds that such part or parts of the Motion to Strike by Bridgestone is denied and such portions of the prefiled testimonies are deemed admissible and included in the Record as this testimony does not violate of Rule 704, SCRE. ¹⁶
- *14 8. The Commission concludes and finds that it has the authority to waive all or any part or portions of the requirements of the South Carolina Generator Interconnection Procedures (SCGIP) in the public interest.

- 9. The Commission concludes and finds that it shall evaluate and determine this matter based upon case-specific facts applied to the laws, rules and regulations governing the Commission and its authority.
- 10. The Commission concludes and finds that Bridgestone should be granted a limited waiver to move to the front of the state interconnection queue in order for DESC to immediate proceed to complete its review and study of Bridgestone's Solar Array application prior to any other studies or testing related to any other matter pending in the interconnection queue. The Commission notes that DESC has testified that it would expedite such process to make the Solar Array operational if a waiver to the queue requirement was granted to Bridgestone.
- 11. The Commission finds and concludes that it is within the public interest to grant a waiver to Bridgestone as provided herein and to direct DESC to expedite the completion any relevant or remaining studies and testing to make the Bridgestone Solar Array operational.
- 12. The Commission concludes and finds that Bridgestone will neither net meter nor sell its full output to a South Carolina utility. The Commission notes that this is an undisputed fact between the parties.
- 13. The Commission concludes and finds that Bridgestone intends to consume all electricity generated by the Solar Array.
- 14. The Commission concludes and finds that Bridgestone's Solar Array is directly connected to its Graniteville plant powerhouse, and not to DESC equipment; in fact, the late filed Hearing Exhibit No. 8 provides a detailed schematic diagram showing such connections.
- 15. The Commission concludes and finds that the Bridgestone Solar Array functions as a behind the meter resource which displaces load from the utility and that once in operation, the Solar Array will meet approximately 1.5% of the passenger and light truck tire plant's electrical needs at its Graniteville plant at this time; however, Bridgestone is expanding its plant and when complete, it is expected to result in an increase in electricity demand from DESC regardless of any offset from the Solar Array.
- 16. The Commission concludes and finds that Bridgestone installed reverse power flow protection relays to prevent electricity from being inadvertently transmitted from the Solar Array to DESC infrastructure.
- 17. The Commission concludes and finds that Bridgestone constructed the Solar Array in accordance with the contract for electric service ("Service Contract") between Bridgestone and DESC approved by the Commission.
- 18. The Commission concludes and finds that Bridgestone has now waited approximately thirty (30) months for the Solar Array since beginning this project for the Solar Array to become operational for a project constructed and remaining idle since October 2018.
- *15 19. Based upon the specific facts and circumstances of this matter, the Commission concludes and finds that it is unreasonable for Bridgestone to continue wait in the interconnection queue at queue position number 375 with an estimated thirty-one (31) projects in the queue and three (3) affected system projects not shown on the queue list were are under study or planned to be studied prior to the Bridgestone Solar Array.
- 20. The Commission concludes and finds that it is in the public interest for Bridgestone to have a limited waiver from the interconnection queue requirement of SCGIP.
- 21. The Commission further concludes and finds that it is in the public interest to require DESC to immediately proceed to undertake any relevant studies, testing, and measures needed to ensure the Solar Array will not cause harm to the DESC system once operational and to allow the Solar Array to be operational as soon as practical.

- 22. The Commission concludes and finds that DESC must complete any needed or relevant studies or testing within sixty (60) days of this Order. However, if the Bridgestone Solar Array is not operational within this first sixty (60) days from the date this Order, the Commission further concludes and finds that DESC must continue to provide such report and explanation to the Commission every thirty (30) days thereafter until the Bridgestone Solar Array is operational and report to the Commission when the Bridgestone Solar Array is operational.
- 23. The Commission concludes and finds that Bridgestone shall allow access to DESC and its representatives access for the purpose of testing and conducting relevant studies for the Solar Array to become operational as soon as possible.
- 24. The Commission concludes and finds that DESC must complete all relevant studies and work with Bridgestone in good faith to implement any additional measures needed to ensure the Solar Array will not cause harm to the DESC system once operational.
- 25. The Commission concludes and finds that DESC has already undertaken some review of Bridgestone's Solar Array and, under the Service Contract approved by this Commission, DESC has specified measures for the safe operation of the Bridgestone system.
- 26. The Commission further concludes and finds that its' Decision in this proceeding is in the public interest and is further intended to better serve the goals of 2014 Act 236 and the 2019 Energy Freedom Act (Act 62) consistent with the laws passed by the General Assembly for renewable energy in those acts.
- 27. The Commission further concludes and finds that it should retain jurisdiction of this matter to ensure a smooth completion to make the Bridgestone Solar Array operational.
- 28. The Commission concludes and finds that it is authorized to operate in the public interest regarding the application and requirements of the South Carolina Generator Interconnection Procedures (SCGIP).
- 29. The Commission concludes and finds that findings are in the public interest and further intended to better serve the goals of 2014 Act 236 and the 2019 Energy Freedom Act (Act 62) consistent with the laws passed by the General Assembly for renewable energy in those Acts.

IV. ORDERING PROVISIONS

*16 IT IS THEREFORE ORDERED THAT:

- 1. The Commission has jurisdiction to decide this matter, and also maintains sole jurisdiction to determine and interpret all contracts for services between a party and a utility, and to interpret the application and requirements of the South Carolina Generator Interconnection Procedures (SCGIP).
- 2. The Commission find that it has the authority to waive all or any part or portions of the requirements of the South Carolina Generator Interconnection Procedures (SCGIP) if it is within the public interest.
- 3. The Commission is charged with operating in the public interest regarding the application and requirements of the South Carolina Generator Interconnection Procedures (SCGIP) which is consistent with the 2014 Act 236 and 2019 Energy Freedom Act (Act 62) passed by the General Assembly for renewable energy.
- 4. Finding that it is the public interest, the Commission grants Bridgestone a limited waiver from the queue requirement to move Bridgestone to the front of the state interconnection queue in order for DESC to continue and to expeditiously complete

its study and review the Generating Facility pursuant to Section 4 of the South Carolina Generators Interconnection Procedures prior to any other studies or testing.

- 5. The Commission directs DESC to expedite the completion any relevant or remaining studies and testing to make the Bridgestone Solar Array operational.
- 6. The Commission's decision and findings in matter are based upon the case-specific facts of this Docket which give rise to the grant of a limited waiver to Bridgestone from the queue requirement.
- 7. The Bridgestone Solar Array will neither net meter nor sell its full output to a South Carolina utility.
- 8. DESC must complete all relevant studies and work with Bridgestone in good faith to expeditiously implement any additional measures needed to ensure the Solar Array will not cause harm to the DESC transmission system once the Solar Array is operational.
- 9. Within sixty (60) days of this Order, DESC must report back to the Commission indicating that the Solar Array is operational, or provide an explanation of the delay along with an expected timeline. However, if the Bridgestone Solar Array is not operational within this first sixty (60) days from the date this Order, the Commission orders DESC to continue providing such report and explanation to the Commission every thirty (30) days thereafter until the Bridgestone Solar Array is operational and to further report to the Commission when the Bridgestone Solar Array is operational.
- 10. Bridgestone shall allow access to DESC and its representatives for the purpose of testing and conducting relevant studies for the Solar Array to become operational as soon as possible.
- 11. DESC is ordered to expedite this matter as DESC testified possible in its sworn testimony before the Commission to make the Bridgestone Solar Array operational.
- 12. The Commission shall retain jurisdiction of the matters of this proceeding until a report is filed by DESC with the Commission in this Docket that the Bridgestone Solar Array is operational.
- *17 13. The Record shall reflect and be prepared consistent with the rulings in this Order by the Commission on the Bridgestone Motion to Strike, which was granted in part and denied in part so that:
- a. the portions of the direct testimony of DESC witness Raftery and of DESC witness Freeman identified in the Bridgestone Motion to Strike that contain evidence of conduct or statements made in compromise negotiations with Bridgestone found inadmissible are stricken from the Record; ¹⁷ and the portions of the direct testimony of DESC witness Raftery identified in Bridgestone's Motion to Strike that contain hearsay statements made by the South Carolina Solar Business Alliance, including Hearing Exhibit No. 15, found inadmissible are stricken from the Record. ¹⁸

This Order shall remain in full force and effect until further order of the Commission.

BY ORDER OF THE COMMISSION:

Comer H. "Randy" Randall, Acting Chairman

Footnotes

- In Act 62 of 2019, the General Assembly amended S.C. Code Ann. § 58-27-460 so as to require the Commission to "establish proceedings for the purpose of considering revisions to the standards promulgated pursuant to this section" in 2016 by the Commission in Docket No. 2015-362-E, Order No. 2016-191. S.C. Code Ann. § 58-27-460(A)(2). The proceeding to review the standards for interconnection and parallel operation of generating facilities to an electric utility's distribution and transmission system is ongoing and SCGIP as approved in 2016. See, Docket No. 2019-326-E.
- Initially, Bridgestone requested in the Petition a waiver to operate without processing or studying its Generating Facility under SCGIP. Bridgestone requested in its pre-trial brief, as well as during its closing arguments, that it be granted a waiver allowing Bridgestone exemption from the queue requirement so that the Solar Array could move forward and be immediately processed with any relevant or necessary testing and study completed straightaway by DESC and its representatives or agents so that the Solar Array will be operational as soon as possible.
- All references to "BATO" in Docket filings are changed to "Bridgestone" for consistency purposes in Order, including any quotes.
- Raftery Direct Testimony, p. 7, ln. 20 p. 11, ln. 11; Freeman Direct Testimony, p. 7, ln. 8-10; Raftery Direct Testimony, p. 8, ln. 20-21; Raftery Direct Testimony, p. 9, ln. 22 p. 10, ln. 2; Raftery Direct Testimony p. 9, ln. 17-21; Raftery Direct Testimony p. 10, ln. 21 p. 11, ln. 2; Raftery Direct Testimony p. 4, ln. 9 p. 5, ln. 10; Raftery Direct Testimony p. 12, ln. 20 p. 13, ln. 3; Xanthakos Direct Testimony p. 9, ln. 16 p. 10, ln. 2; Furtick Direct Testimony p. 2, ln. 18-22; Furtick Direct Testimony p. 4, ln. 19 p. 5, ln. 2; Furtick Direct Testimony p. 5, ln. 6-12; Furtick Direct Testimony p. 5, ln. 18-20; Furtick Direct Testimony p. 6, ln. 14 p. 7, ln. 4; Furtick Direct Testimony p. 8, ln. 3-10; Furtick Direct Testimony p. 8, ln. 20 p. 9, ln. 2; Furtick Direct Testimony p. 9, ln. 11-12; Raftery Direct Testimony p. 4, ln. 6-17; Raftery Direct Testimony p. 5, ln. 2-9; Raftery Direct Testimony p. 5, ln. 15-19; Raftery Direct Testimony p. 7, ln. 5-16; Raftery Direct Testimony p. 8, ln. 9-12; Raftery Direct Testimony p. 12, ln. 8 p. 14, ln. 10; Xanthakos Direct Testimony p. 4, ln. 16 p. 7, ln. 3; Xanthakos Direct Testimony p. 8, ln. 15-19; Xanthakos Direct Testimony p. 10, ln. 8-17; and Xanthakos Direct Testimony p. 10, ln. 19 p. 11, ln. 2.
- Furtick Surrebuttal Testimony p. 1, ln. 15 p. 2, ln. 3; Furtick Surrebuttal Testimony p. 3, ln. 4-6; Furtick Surrebuttal Testimony p. 3, ln. 12-13; Furtick Surrebuttal Testimony p. 4, ln. 3-4; Furtick Surrebuttal Testimony p. 5, ln. 3; Furtick Surrebuttal Testimony p. 6, ln. 1-2; Furtick Surrebuttal Testimony p. 7, ln. 10-13; Xanthakos Surrebuttal Testimony p. 2, ln. 17 p. 3, ln. 2; Xanthakos Surrebuttal Testimony p. 4, ln. 7-8; Xanthakos Surrebuttal Testimony p. 6, ln. 18-20; Hammond Surrebuttal Testimony p. 4, ln. 5-7; Hammond Surrebuttal Testimony p. 5, ln. 9-11; Hammond Surrebuttal Testimony p. 6, ln. 1, 3-5, & 7-9; Hammond Surrebuttal Testimony p. 7, ln. 4-10; Hammond Surrebuttal Testimony p. 8, ln. 4-5; Hammond Surrebuttal Testimony p. 9, ln. 3-5; Hammond Surrebuttal Testimony p. 9, ln. 20 p. 10, ln. 2; and Hammond Surrebuttal Testimony p. 15, ln. 8.
- 6 S.C. Code Ann. §§ 58-27-10, <u>et. seq</u>.
- The Court of Appeals for the District of Columbia Circuit recently reaffirmed that "Congress left states with jurisdiction over facilities used in local distribution or only for the transmission of electric energy in intrastate commerce, or over facilities for the transmission of electric energy consumed wholly by the transmitter," ... "Nat'l Ass'n of Regulatory Util. Commissioners v. Fed. Energy Regulatory Comm'n, 964 F.3d 1177, 1182 (D.C. Cir. 2020) quoting 16 U.S.C. § 824(b)(1).
- 8 See Raftery Direct Testimony, p. 7, ln. 20 p. 11, ln. 11; Freeman Direct Testimony, p. 7, ln. 8-10.
- 9 See Raftery Direct Testimony, p. 8, ln. 20-21; Raftery Direct Testimony, p. 9, ln. 22 p. 10, ln. 2; Raftery Direct Testimony p. 9, ln. 17-21; Raftery Direct Testimony p. 10, ln. 21 p. 11, ln. 2; Raftery Direct Testimony p. 4, ln. 9 p. 5, ln. 10; Raftery Direct Testimony p. 12, ln. 20 p. 13, ln. 3.
- See Raftery Direct Testimony, p. 9, ln. 3-6; Raftery Direct Testimony p. 9, ln. 11-12; Raftery Direct Testimony p. 4, ln. 6-17; Raftery Direct Testimony p. 5, ln. 2-9; Raftery Direct Testimony p. 5, ln. 15-19; Raftery Direct Testimony p. 7, ln. 5-16; Raftery Direct Testimony p. 8, ln. 9-12; Raftery Direct Testimony p. 12, ln. 8- p. 14, ln. 10; See Furtick Direct

- Testimony, p. 2, ln. 18-22; Furtick Direct Testimony, p. 4, ln. 19 p. 5, ln. 2; Furtick Direct Testimony, p. 5, ln. 6-12; Furtick Direct Testimony, p. 5, l. 18-20; Furtick Direct Testimony, p. 6, ln. 14 p. 7, ln. 4; Furtick Direct Testimony, p. 8, ln. 3-10; Furtick Direct Testimony, p. 8, ln. 20 p. 9, ln. 2; Furtick Direct Testimony, p. 9, ln. 3-6; p. 9, ln. 11-12; Xanthakos Direct Testimony p. 4, ln. 18 p. 5, ln. 2; Xanthakos Direct Testimony p. 5, ln. 6 p. 6, ln. 9; Xanthakos Direct Testimony p. 6, ln. 16 p. 7, ln. 3; Xanthakos Direct Testimony p. 8, ln. 15-19; Xanthakos Direct Testimony p. 10, ln. 8-17; Xanthakos Direct Testimony p. 10, ln. 19 p. 11, ln. 2.
- See Furtick Surrebuttal Testimony p. 1, ln. 15 p. 2, ln. 3; Furtick Surrebuttal Testimony p. 3, ln. 4-6; Furtick Surrebuttal Testimony p. 3, ln. 12-13; Furtick Surrebuttal Testimony p. 4, ln. 3-4; Furtick Surrebuttal Testimony p. 5, ln. 3; Furtick Surrebuttal Testimony p. 6, ln. 1-2; Furtick Surrebuttal Testimony p. 7, ln. 10-13; Xanthakos Surrebuttal Testimony p. 2, ln. 17 p. 3, ln. 2; Xanthakos Surrebuttal Testimony p. 4, ln. 7-8; Xanthakos Surrebuttal Testimony p. 6, ln. 18-20; Hammond Surrebuttal Testimony p. 4, ln. 5-7; Hammond Surrebuttal Testimony p. 5, ln. 9-11; Hammond Surrebuttal Testimony p. 6, ln. 1, 3-5, & 7-9; Hammond Surrebuttal Testimony p. 7, ln. 4-10; Hammond Surrebuttal Testimony p. 8, ln. 4-5; Hammond Surrebuttal Testimony p. 9, ln. 3-5; Hammond Surrebuttal Testimony p. 9, ln. 20 p. 10, ln. 2; and Hammond Surrebuttal Testimony p. 15, ln. 8.
- Prior to constructing the 1.98 MW Solar Array herein, BATO studied the possibility of constructing a solar array to be interconnected to and to be operated in parallel with SCE&G's (now DESC's) distribution and transmission system, but chose not to build that particular solar array project after it missed the opportunity to participate in SCE&G's Bill Credit Agreement program. *Cannon Direct p. 6, ln. 17-22*.
- The remaining consideration left unresolved was accommodating the 115 kV auto switching scheme. However, this consideration was not significant enough to delay an interconnection agreement. *Hearing Exhibit 13*. Thirty months later, DESC has not addressed the question of the auto switching scheme. *Furtick Direct p. 9, 1. 18 p. 10, 1. 2*.
- 14 See Raftery Direct Testimony, p. 7, ln. 20 p. 11, ln. 11; Freeman Direct Testimony, p. 7, ln. 8-10.
- See Raftery Direct Testimony, p. 8, ln. 20-21; Raftery Direct Testimony, p. 9, ln. 22 p. 10, ln. 2; Raftery Direct Testimony p. 9, ln. 17-21; Raftery Direct Testimony p. 10, ln. 21 p. 11, ln. 2; Raftery Direct Testimony p. 4, ln. 9 p. 5, ln. 10; Raftery Direct Testimony p. 12, ln. 20 p. 13, ln. 3.
- See Raftery Direct Testimony, p. 9, ln. 3-6; Raftery Direct Testimony p. 9, ln. 11-12; Raftery Direct Testimony p. 4, ln. 16 6-17; Raftery Direct Testimony p. 5, ln. 2-9; Raftery Direct Testimony p. 5, ln. 15-19; Raftery Direct Testimony p. 7, In. 5-16; Raftery Direct Testimony p. 8, In. 9-12; Raftery Direct Testimony p. 12, In. 8- p. 14, In. 10; See Furtick Direct Testimony, p. 2, ln. 18-22; Furtick Direct Testimony, p. 4, ln. 19 - p. 5, ln. 2; Furtick Direct Testimony, p. 5, ln. 6-12; Furtick Direct Testimony, p. 5, l. 18-20; Furtick Direct Testimony, p. 6, ln. 14 - p. 7, ln. 4; Furtick Direct Testimony, p. 8, ln. 3-10; Furtick Direct Testimony, p. 8, ln. 20 - p. 9, ln. 2; Furtick Direct Testimony, p. 9, ln. 3-6; p. 9, ln. 11-12; Xanthakos Direct Testimony p. 4, ln. 18 - p. 5, ln. 2; Xanthakos Direct Testimony p. 5, ln. 6 - p. 6, ln. 9; Xanthakos Direct Testimony p. 6, ln. 16 - p. 7, ln. 3; Xanthakos Direct Testimony p. 8, ln. 15-19; Xanthakos Direct Testimony p. 10, ln. 8-17; Xanthakos Direct Testimony p. 10, ln. 19 - p. 11, ln. 2; Furtick Surrebuttal Testimony p. 1, ln. 15 - p. 2, ln. 3; Furtick Surrebuttal Testimony p. 3, ln. 4-6; Furtick Surrebuttal Testimony p. 3, ln. 12-13; Furtick Surrebuttal Testimony p. 4, ln. 3-4; Furtick Surrebuttal Testimony p. 5, ln. 3; Furtick Surrebuttal Testimony p. 5, ln. 10-15; Furtick Surrebuttal Testimony p. 6, ln. 1-2; Furtick Surrebuttal Testimony p. 7, ln. 10-13; Xanthakos Surrebuttal Testimony p. 2, ln. 17 - p. 3, ln. 2; Xanthakos Surrebuttal Testimony p. 4, ln. 7-8; Xanthakos Surrebuttal Testimony p. 6, ln. 18-20; Hammond Surrebuttal Testimony p. 4, ln. 5-7; Hammond Surrebuttal Testimony p. 5, ln. 9-11; Hammond Surrebuttal Testimony p. 6, ln. 1, 3-5, & 7-9; Hammond Surrebuttal Testimony p. 7, ln. 4-10; Hammond Surrebuttal Testimony p. 8, ln. 4-5; Hammond Surrebuttal Testimony p. 9, ln. 3-5; Hammond Surrebuttal Testimony p. 9, ln. 20 - p. 10, ln. 2; and Hammond Surrebuttal Testimony p. 15, ln. 8.
- 17 See Raftery Direct Testimony, p. 7, ln. 20 p. 11, ln. 11; Freeman Direct Testimony, p. 7, ln. 8-10.
- See Raftery Direct Testimony, p. 8, ln. 20-21; Raftery Direct Testimony, p. 9, ln. 22 p. 10, ln. 2; Raftery Direct Testimony p. 9, ln. 17-21; Raftery Direct Testimony p. 10, ln. 21 p. 11, ln. 2; Raftery Direct Testimony p. 4, ln. 9 p. 5, ln. 10; Raftery Direct Testimony p. 12, ln. 20 p. 13, ln. 3.

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